

Failure rate of condoms during anogenital intercourse in homosexual men

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SUMMARY Two hundred and seventy seven homosexual men participating in an AIDS study in Amsterdam, The Netherlands, were interviewed in July to December 1986 regarding their experiences with the use of condoms during anogenital intercourse. It appeared that in many cases the condoms used could not be described as reliable, or were not used safely. In 8% (117/1468) of cases the condom tore or slipped off. When different condoms were compared, it was seen that "qualified" anal condoms functioned best. Other anal condoms functioned worse, and in many cases even worse than classic vaginal condoms. Whether these differences exclusively depended on differences in quality cannot be assessed. Men who buy a qualified anal condom are possibly more motivated and thus also less likely to have failures.

Regarding the apparent unreliability of the condoms used, homosexual men are advised to refrain from anogenital intercourse. When this is not feasible, a qualified anal condom should be used.

The human immunodeficiency virus (HIV), the cause of the acquired immune deficiency syndrome (AIDS), is primarily transmitted by sexual contact. In the western world the group at highest risk of acquiring AIDS is homosexual and bisexual men.¹ Research in this group has shown that anogenital intercourse is efficient in transmitting HIV.^{2,3} Next to sexual behaviour change, the use of condoms is therefore seen as an important measure to reduce the spread of HIV among homosexual men. In vitro experiments have shown that HIV cannot pass through the intact membrane of the latex condom, but does pass through the intact membrane of the natural condom.⁴ So in practice production failures and human sexual behaviour determine the effectiveness of condom use in preventing HIV transmission.

Research among heterosexual partners of patients with AIDS in the United States⁵ and among prostitutes in Africa⁶ has shown the protective effect of condom use. Data are not available, however, regarding transmission of HIV among homosexual men and condom use. Nevertheless the impression exists that condoms often break during anogenital intercourse

between men.⁷ The greater friction during this sexual practice obviously plays an important part.⁸ To gain knowledge of condom use among homosexual men, we investigated how often condoms tear or slip off during anogenital intercourse between men. We also noted whether there were differences in these respects between the different types of condoms used. It was not possible in this research to assess to what degree the condom gives protection against HIV transmission.

Patients, materials, and methods

The study population consisted of 277 homosexual men enrolled in the course of a larger study on risk factors for HIV infection and AIDS.² In July to December 1986 participants were interviewed regarding their experiences with the use of condoms during anogenital intercourse. Men volunteered to participate, and were predominantly living in and around Amsterdam. Respondents were questioned regarding the number of their sexual partners and the number with whom they had practised anogenital intercourse (insertive and receptive) during the previous six months. We also asked how many times a condom was used, what kind of condom was used, and how many times condoms tore or slipped off. In this study tearing and slipping off was defined as failure. We dis-

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tinguished between five types of condom: qualified anal, not qualified anal, not known anal, vaginal, and not known vaginal. Anal condoms were those specifically produced for anogenital intercourse. An anal condom was described as being qualified if it was produced according to the results of a pilot study of 17 couples of homosexual men.⁸ In that study, five brands of condom specifically designed for anogenital intercourse were tested regarding their safety and acceptability during anogenital intercourse between men. Qualified anal condoms were introduced on the Dutch market in June 1986, accompanied by an information campaign for homosexual men regarding the use of condoms. The two makes of qualified condoms were: Duo (London Rubber Company, Leerdam, The Netherlands) and Gay Safe (Foundation for Sexual Reform, The Hague, The Netherlands). A matching lubricant was enclosed with these condoms in a separate sachet. A condom was called not qualified, when another anal condom was used. The vaginal condom was that originally developed for contraception. The category "not known" was used if the respondent was not able to name the brand or origin of the condom used.

The representativeness of the examined population was not known. Every conclusion that is drawn on the basis of the results presented here should take this factor into account.

Results

SEXUAL ACTIVITY

Table 1 shows that six men (2%) had had no sexual partner in the six months preceding the interview and 75 (27%) said they had not practised anogenital intercourse. Of the remaining 196 (71%), 84 (43%) had never and 112 (57%) sometimes or always used a condom. Of this last group, 40 (36%) had used anal condoms exclusively, 29 (26%) had used both anal and vaginal condoms, and 43 (38%) had used vaginal condoms exclusively. Of those who reported having used anal condoms, 97% said they used lubricants compared with 74% of those exclusively using vaginal condoms, a significant difference ($\chi^2_{(1)} = 13.5$; $p < 0.001$).

Table 1 also shows that non-condom-users had fewer sexual partners than users, ($t(194) = 3.5$; $p < 0.01$) and also fewer than those who refrained from anogenital intercourse ($t(157) = 2.0$; $p < 0.05$). Condom users had more partners with whom they practised anogenital intercourse than non-users ($t(194) = 5.6$; $p < 0.01$).

FAILURE RATE

The respondents reported that they had used 838 vaginal and 630 anal condoms. Table 2 shows that the

Table 1 Numbers of sexual partners and incidence of anogenital intercourse and condom use during previous six months in 277 homosexual men participating in AIDS study in Amsterdam, The Netherlands, July to December 1986

	No (%) of respondents	Mean (SD) no of sexual partners	Mean (SD) partners practising anogenital intercourse
No sexual partner	6 (2)		
No anogenital intercourse	75 (27)	13.1 (21.4)	
Condoms not used during anogenital intercourse	84 (30)	7.7 (11.3)	1.0 (0.8)
Condoms used* during anogenital intercourse	112 (40)	15.6 (18.6)	3.5 (4.1)
Total	277 (100)	12.5 (17.8)	2.5 (3.4)

*Condoms used once or more per partner.

overall failure rate was 8% (117/1468). For vaginal condoms it was 9% (73/838) and for anal condoms it was 7% (44/630). For qualified anal condoms the failure rate was 3% (13/479), which was significantly lower than the failure rate of any other type of condom in this study ($\chi^2_{(1)} = 7.2$; $p < 0.01$). The failure rates of not qualified anal condoms was 9% (6/65), and of not known anal condoms it was 29% (25/86). For not known vaginal condoms the failure rate was also relatively high: 18% (13/71). The failure of vaginal condoms was caused equally by their slipping off (5%; 43/838) and tearing (4%; 30/838), whereas the failure of anal condoms was more often due to slipping off (5%; 34/630) than to tearing (2%; 10/630) ($\chi^2_{(2)} = 13.1$, $p < 0.01$).

Discussion

This study shows that the self reported failure rate was significantly lower for qualified anal condoms than for other condoms used during anogenital intercourse between men. We conclude that, apart from production failure and human sexual behaviour, the effectiveness of condom use is influenced by the type of condom used. More research is needed, however, to

Table 2 Failure (because of tearing or slipping off) of condoms during anogenital intercourse, in 112 homosexual men participating in AIDS study in Amsterdam, The Netherlands, July to December 1986 (numbers are percentages (absolute numbers in parentheses))

Condoms	Qualified	Not qualified	Not known	Total
Anal	3 (13/479)	9 (6/65)	29 (25/86)	7 (44/630)
Vaginal	8 (60/767)		18 (13/71)	9 (73/838)

confirm these findings. Men who consciously buy and use a qualified anal condom may know more and have a more positive attitude towards condom use than those who do not. In this research the relatively small number of users probably plays a part as well. Apart from that, the promotion of condom use among homosexual men has only recently been introduced. This could mean that habituation occurs after some time. It remains to be seen whether this habituation will lead to a rise or decline in the different failure rates.

Because the observed differences are relatively large, however, it is not likely that they can be explained by other factors only. For this reason, as well as for the observed 8% overall failure rate, it is necessary to improve knowledge and attitudes regarding condom use among homosexual men.

Finally, we conclude that condom use among homosexual men is still problematic. No one condom appears to be 100% safe, even when used correctly. The primary prevention advice for homosexual men is therefore to refrain from anogenital intercourse. If this is not feasible a qualified anal condom should be used.

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